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ABSTRACT

This journal issue addresses the issue of testing in the social studies classroom. The first article, "The Role of Testing" (Bragaw), focuses on the need for tests to reflect the objectives of the study completed. The varying functions of pop quizzes, weekly tests, and unit tests are explored. "Testing Thinking Processes" (Killoran, Zimmer, and Fischer), identifies four basic thinking processes that social studies teachers may want to foster in their students through tests--memorization, analysis, synthesis, and hypothesis--and demonstrates how to construct questions that develop these thinking processes. Examples of matching, true/false, essay questions, and graph interpretation exercises are provided. In "Some Reflections on the Art of Testing," Hotchkiss considers both the importance and limitations of testing as a tool for measuring student achievement. The final article, "Essay Questions: The Eternal Braid" (Killoran and Fischer), discusses the construction of social studies essay questions and presents specific suggestions for improving this type of testing method. The final article illustrates possible variations in essay question construction. Discussed are essay questions based on charts and illustrations, written statements, and dilemmas. (LP)

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IN THIS ISSUE

TESTING

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JOURNAL ARTICLES

Articles relating to the field of social studies education may be contributed by any teacher. Articles should be clearly typed and forwarded to the Editor-in-Chief. A contributor is requested to include his/her name, school, and home telephone number.

Single copies of the JOURNAL may be purchased by non-members of the UFT for $1.50 per copy to cover handling and mailing costs.

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> Examinations comprise a crucial aspect of the whole educational process, since they represent willy-nilly what all the fine words have been about. Moreover, examinations furnish practically the only objective evidence of the value of a course of instruction. A published examination (and examinations are always published, whether officially or unofficially) presents a fair statement of the course objectives. All else that is said about the course may be summarily classified in the category of "pious hopes."
>
> M. W. Richardson

Testing has always been used by teachers to measure the achievements of their students. But recently, as Richardson so aptly put it, the testing process is also being viewed as a means to measure the effectiveness of the instructional program. Using these thoughts as background, it is the aim of this issue of the ATSS/UFT JOURNAL not only to make suggestions for the improvement in the creation of tests, but also to make them more useful educational tools.

Our lead article is by Donald Bragaw, the Chief of the Bureau of Social Studies of the State of New York. Mr. Bragaw concentrates on the need for any test to be a reflection of the objectives of any study.

Just as in a relay race, where passing the baton is crucial; the editors of the JOURNAL, taking the baton from Mr. Bragaw, deal with the testing of the higher cognitive skills.

Whereas the first two articles are theoretical in nature, the last three articles are primarily "nuts and bolts" approaches to test construction. Jack Hotchkiss gives valuable insights into the construction of short answer test questions, while Annette C. Argyros concerns herself with the pitfalls and stumblings one may encounter in writing essay questions. Finally, two of the editors lay out a schema that one may use in creating essay questions.

As has been the case in the past, we hope that you can, and will, find something of value in the ideas presented. Again, we welcome your comments, both pro and con, on this issue.

Editor

THE ROLE OF TESTING

Donald Bragaw*

> One hundred thirty-two thousand individual desk computers with students pressing response keys...
>
> -or-
>
> Thirty-two students with individual desk response keys watching a large Orwellian screenineachclassroomacrossthe State...
>
> -or-
>
> Individual student telepathic responses are registered and sent in response to a flashing laser system emanating from room 765: the State Education Department's examinations unit...

Indeed, it may even be so sophisticated a system as to allow a student's knowledge to be measured without pencil and paper, or ten digits at the end of his/her arms. Indeed, again, the pinky may have finally disappeared, and the remaining fingers will, like the fabled emu, disappear; or remain and be for grabbing and fondling--the mind waves completely mastering all other manipulative skills!

And no bells shall ring, no textbooks be opened (what's new?), no library portal breached. The hand held Apple IIe accesses itself to the Library of Congress, and to two hundred years of answer categories and patterns from previous examinations (what's new?).

Whatever the system which will be in use, the vision of the future will, I believe, contain a Regents examination. It, like its predecessors, will reflect the values of the times.

But whatever the examination, it should and must match both the intent and the reality of whatever curriculum exists. The present Comprehensive Examination in Social Studies, whatever one individually thinks about it, does reflect the intent and substance of the program which was initially developed and issued between 1962-70. If any problems exist with the examinations, the source of the problems lies with the implementation of the

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program-- not the examination. Except for the 9th grade program (almost the only content that was really new and different from the program of the 1950's and early 1960's), the programs around the State remained largely as they had "always" been: European History and American History. When the decision was made in 1968 to go to a Comprehensive Examination, the belief was that there would be a comprehensive, articulated and developmental program undergirding the examination. The local school district's responsibility was to see that such a program was carried out because another State decision was to cut back on its monitoring responsibilities--a policy that in effect remains today. However, reliance on an examination, to effectuate a program seldom works and articulation seldom, if ever, has occurred. Social studies was not treated as a comprehensive subject--but one of individual courses totally independent one from the other; and the developmental quality of a conceptual learning base never was seen by most as a viable organizational scheme. Concepts--read: big ideas--were seen as insidious attempts to subvert factual knowledge, rather than as organizers for factual knowledge that grows with experience and content exposure, an Aristotelian conceptualization of learning.

Because of these school district conditions, and because of political pressures, it was suggested that Social Studies return to yearly Regents Examinations--maintaining the program as it was, but testing at the end of every year. This was, and is, a very appealing proposition as long as you ignore the program charge. "It" can be done at grade level: "It," being that you can "measure" for conceptual growth, and you can measure for skills and knowledge for that year's work. However, does it lead to articulated programming which should be the goal of any academic area regardless of whether an examination exists or not?

Testing on a daily, weekly, or monthly basis should serve different purposes:

Daily: (Pop quizzes) should function as an information check: Do students have data by which to function (that day, or for several days, or all the time?)

Weekly: Can the student relate studied data to each other and to larger frames of reference (understandings)? Can the student take the Proclamation Line of 1763, The Intolerable Acts and the Boston Tea Party and see their relationship to the colonists' dream, the goals of the British government and the geographic realities of North America? Can the student further make connections between those three major "frames?"

Monthly: (Unit) These tests should be cumulative and comprehensive in nature: They should require new configurations of data use-- clearly showing relationships between and among the parts of the month's work, and between this month's work and previous work (e.g. data from Colonial or Revolutionary study related to Constitutional or "new

nation" material; related to Iroquois, to medieval or earliest European experiences.). The connection must be clear and unambiguous. The student should continually recognize that the material covered is cumulative, related and requires increasingly more sophisticated cognition skills as they progress year by year and within the year.

There is no magic formula, and every test should include elements of the above--but a clearly developed program should have a clearly developed evaluation program.

Each kind of test should have some kind of expository writing. Quizzes should require a clearly written one-sentence definition (or whatever) which is syntactically and grammatically correct; weekly tests should either contain a requirement for one clearly written expository paragraph, or consist of a major expository essay exercise; monthly (unit) tests should minimally require two expository experiences--one abbreviated and one full fifteen point essay. These essay questions should vary in their required directions: discuss, describe, show, identify, explain, etc. so the student will develop familiarity with the requirements of each. A technique used by successful teachers is to devote at least two class periods per month using exposition as the basic lesson structure--clearly identifying it as such (e.g. statement on chalkboard related to day's lesson asking students to prove or disprove, etc.).

We have always attempted to make the Comprehensive Social Studies Regents Examinations an end-of-program-synthesis test--sampling information areas, asking for anticipated relationships between and among data and understanding over a broad spectrum of time and material. If the students are exposed to a cumulative evaluation process as described above, with care being given to increasingly higher levels of cognitive skills development, then students should have no real trouble with any test--be it Regents or SAT's.

The key to any testing program is that the test should clearly match the program. If the two are not in congruence, the student suffers. The goals of any program should be clear to all concerned--including the student--right from the start.

TESTING THINKING PROCESSES

James Killoran
Stuart Zimmer
Joel Fischer *

"If a thing exists, it exists in some amount....If it exists in some amount, it can be measured."

Edward L. Thorndike

The purpose of this article is twofold: first, it is to identify four basic thinking processes that teachers may want to foster in their students and second, to show how to construct questions that test these thinking processes. As identified in this article, the four thinking processes are:

MEMORIZATION: The Memorization process is primarily concerned with having students recall and recognize specific elements of a given subject matter. The committing to memory of specific items in a subject area is a basic level skill, and can form the basis for elements needed for more complex and abstract forms of knowledge.

ANALYSIS: Analysis is a thinking process in which one separates something into its component parts. The purpose of this operation is to put the many parts of a given communication under a microscope so that the parts may be understood in their relationship to each other.

SYNTHESIS: The Synthesis process can be defined as the ability to see connections between and among the various parts of the data. These connections or relationships are not obvious from the way the data is presented. It requires the student to find some sense in the relationships of the various parts and produce a new (to them) whole.

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HYPOTHESIS: The process of hypothesis is having students make logical predictions from given conditions. Thus, it requires the students to infer what logically follows from an understanding of the given data in order to reach a conclusion.

The remainder of this article will focus upon each of the above thinking processes in greater detail. Since the second purpose of this article is to assist the teacher in test construction, each thinking process is illustrated by annotated questions. In addition, most thinking processes include assistance in the phrasing of test questions. Questions have been chosen that deal with American Studies. However, it does not matter with what subject area a teacher is involved, because the thinking processes are common to all subject areas.

MEMORIZATION DEFINED:

The Memorization process is primarily concerned with having students recall and recognize specific elements of a given subject matter. The committing to memory of specific items in the subject area is a basic level skill, and can form the basis for elements needed for more complex and abstract forms of knowledge. In any subject area, there are certain terms, phrases, and facts that form the building blocks necessary for the development of ideas. This mental operation of recalling and recognizing specifics does not imply that knowledge is utilized; only that it is recalled or recognized. Usually, when testing this thinking process, the teacher will find that no specialized mental processes of organizing the information are needed. The material tested is strictly based upon the student's ability to recall and recognize a knowledge of specifics.

CONSTRUCTION OF MEMORIZATION QUESTIONS:

The basic ingredient from composing memory type questions is precision. The questions must be clearly delineated and exact in what they ask the students to recall and recognize. Questions should not be clothed in terms or settings which are new and different to the students. In general, the memorization type question deals with the who, what, where and when of the subject matter.

The representative questions that follow are not meant to imply that these are the end-all of questions, but that they are merely examples to illustrate the thinking process of Memorization.

There are two mental operations in the thinking process of Memorization. The first set of examples illustrates the operation of recall:

FILL-IN: The Constitution of the United States Government lists certain powers that only the National government has (known as "delegated" powers), and, by implication, those powers that only the State governments have (since they are saved for the State governments, they are said to be "reserved"). List two of each of these powers below:

DELEGATED	RESERVED
_____	_____
_____	_____

FILL-IN: Today, there are a total of _____ votes in the United States Electoral College.

ESSAY: A. State two reasons for opposition to the proposed new constitution by each of the following groups:

1. Slaveholders
2. Merchants
3. Businessmen
4. Farmers
5. States'-Rightists

B. List the principles of the Declaration of Independence that are found in the Constitution.

Notice how questions dealing with the operation of recall simply asks the students to bring forth stored information. Another mental operation involved in the Memorization process is the ability to recognize. This operation involves selecting from a number of items the correct response. Examples of recognition type questions are:

TRUE OR FALSE: Under the Articles of Confederation, each state government was given one vote in Congress.

TRUE OR FALSE: The Constitution of the United States established the priniple of national supremacy to avoid difficulties that might arise between Federal and State laws that were in conflict with each other.

MATCHING:

____ 1. Amendment I	a. No person shall be elected to the office of President more than twice.
____ 2. Amendment XXI	b. Congress shall make no law respecting the establishment of religion.
____ 3. Amendment XXII	c. Prohibition is re-

pealed.

____ 4. Amendment XV — d. The Senate shall be composed of two Senators from each state elected by the people.

____ 5. Amendment XVII — e. No person shall be denied the right to vote because of their race.

MULTIPLE CHOICE: The American Revolution began in:
a. 1776 b. 1787 c. 1763 d. 1812

MULTIPLE CHOICE: An essential of a Republican form of government is:
a. A party system.
b. A government of elected officials.
c. Universal suffrage.
d. A bicameral legislature.

MULTIPLE CHOICE: Which branch of government has the indicated checking power over the other branch?

CHECK	Legislative	Executive	Judicial
Can impeach the President	_____	_____	_____
Confirms President's Appointments	_____	_____	_____
May veto laws	_____	_____	_____

Listed below are several powers of state and central governments. Place a C before the examples of central powers and an S before the examples of state powers:
a. _____ To print money
b. _____ Pass tariff laws
c. _____ Control the Army and Navy
d. _____ Pass marriage and divorce laws

The recall and recognition operations may be combined in testing the thinking process of Memorization. An example of this might be:

MODIFIED TRUE AND FALSE: If the statement is false, replace the word or phrase underlined with one that will make the statement correct:

a. The power of the Supreme Court to decide on the constitutionality of laws was first established by

Chief Justice Marshall in the case of McCulloch vs. Maryland.

b. The power of the Supreme Court to declare a law unconstitutional is known as the veto.

Notice that it matters little what form the question takes (multiple choice, fill-in, true-false, etc.) because the crucial factor is the thinking process being tested. The thinking process of Memorization requires that the questions ask for recall or recognition of specific terms, dates, numbers, cases, phrases and events. In formulating an answer to any of these queries, the students will be required to recall or recognize a specific piece of information that has been taught by the teacher.

ANALYSIS DEFINED:

Analysis is a thinking process in which one separates something into its component parts. The purpose of this operation is to put the many parts of a given communication under a microscope so that the parts may be understood in their relationship to each other. The various sub-parts are being separated primarily for the purposes of clarification and understanding.

In science, we analyze water and find it is composed of atoms of both hydrogen and oxygen. We can look more closely and analyze a hydrogen atom and find that it is composed of protons and electrons. Why do we have this pre-occupation with breaking things down into their component parts? It is difficult and cumbersome to study a large and complex item. Therefore, of necessity, the human mind, when it is confronted with an item of complexity, tends to separate it into smaller parts so as to understand the whole.

Similarly, if an instructor wants to teach the thinking process of analysis, the teacher will show students how a concept may be broken down into manageable parts. How successful a teacher may be in instilling this process, may be tested. We have identified three mental operations that would indicate that the students have mastered the thinking process of analysis.

CONSTRUCTION OF ANALYSIS QUESTIONS:

The first of the mental operations involved in the process of analysis is called Transformation. An indication that the students accurately understand the idea that is being stated, is that they will be able to convert the idea into different formulations of the communication. In Transformation, the student is called upon to alter information into a different format from that which was presented in class. Thus, rephrasing and re-

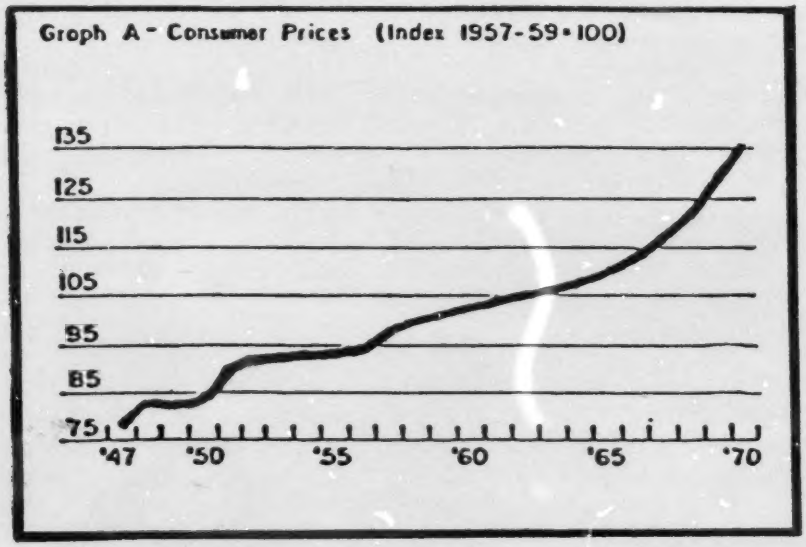
framing the original concept is one way of indicating this understanding. By examining some specific questions illustrative of Transformation, this process will become clearer.

A. Draw a political cartoon that would illustrate the following point of view:

> With the rising cost of taxes and energy in the Northern states, many industries are fleeing to the warmer climates found in the Southern states.

Notice that the student is not creating or coming up with a new idea. Rather, because the idea is given, all the student is doing is reinterpreting--in this case, in pictorial form--a given idea presented in prose.

B. According to the graph depicted below, consumer prices from 1947 through 1970 are:
   A. Rising
   B. Falling
   C. Leveling off
   D. Unchanged for the period



The reader will note that in example B, the question seeks to measure a student's ability to understand a given piece of data without judgement. What is required in this particular graph type question, is that the student understands what each of the parts are, and what each part is conveying. They are not asked to make connections, but simply to see and restate existing relationships found in the graph. All that is being required of the student in the thinking process of analysis, is to reformu-

late accurately what is contained in the given question.

Notice that in these particular questions, the students are required to transform ideas expressed in graphic and pictorial form into prose or vice versa. Transformation also deals with having students make such transformations into the same medium as well: e.g. having students transform an idea expressed in words into another group of words, but having essentially the same meaning as the original idea expressed. Thus, if a student has the ability to rephrase or transform an item or idea into the same or a different medium, it is one way of indicating that the students understand those items.

A second mental operation that would indicate a student's understanding of something would be the ability to Associate. By Association, we mean the ability to see the particular example as illustrative of a given concept or generalization, or vice versa.

To illustrate this ability of association, the following examples are presented:

A. Which group of conditions are most characteristic of a totalitarian government?

1. High literacy rate; a market economy; popularly elected officials.
2. A large middle class; right of expression; a large army.
3. A strong central government; one party rule; government control of the media.
4. Representative government; encouragement of the arts; a classless society.

B. Which statement most clearly supports the concept of "Federalism?"

1. Congress should increase the members of the Supreme Court.
2. The President's term of office should be increased from four to six years.
3. Problems that concern New York State should be solved by inhabitants of the state.
4. Congress should investigate the spending policies of the Defense Department

C. "Fear, or the desire for power and wealth, cause men to change usual patterns of behavior, as well as their normal system of values."

Show to what extent his statement helps to explain each of three of the following:

1. Treatment of American Indians.
2. Treatment of a particular immigrant group in the U. S. during the 19th Century.

3. Treatment of Black Americans in the U. S. after the Civil War.
4. Treatment of the Jews in Germany during the Hitler Era.
5. Treatment of Japanese-Americans during World War II.
6. Treatment of Roman Catholics in Northern Ireland.

Notice how in each of the above examples, a concept or a generalization is presented to the student. The student is then being asked to associate that concept or generalization with a specific example.

Typical ways of phrasing Association type questions include:

1. Which of the following charts, best illustrates the concept of _____ .
2. _____ is best illustrated by _____ .
3. Which development has prompted the concept of _____.
4. Which group of conditions is most characteristic of _____ .
5. An indication of _____ would be _____ .

Notice that in the space indicated, you may fill in any concept that you have stressed in your teaching such as Federalism, Democracy or Totalitarianism.

The third mental operation that is involved with analyzing is that of Identifying Underlying Assumptions. This mental operation requires a student to see what is not overtly present in the communication, by requiring the student to make explicit the implicit meaning of things. The emphasis in these types of questions is to have students recognize that what is left out or omitted, is sometimes as important, or more important than what is included. The testing of Underlying Assumptions necessitates that data is presented in order to test the mental operation involved. The data may be varied and include such things as songs, poems, quotes, cartoons and readings.

Some specific examples of questions that reflect this mental operation include:

A. "[Because] People are what they are, any form of government is better than none."

Charles Darwin

A basic belief concerning "people" underlying Darwin's statement is:

1. People are, by nature, good
2. Society, with its evil ways, corrupts people.
3. A democratic government is best for people.
4. People need a set of rules to live with each

other.

B. The author of the following poem made certain assumptions about Americans. By using specific references to the poem, state two assumptions that you think this author made.

I TOO SING
Langston Hughes

I too sing America

I am the darker brother
They sent me to eat in the kitchen
When company comes
But I laugh
And eat well
And grow strong

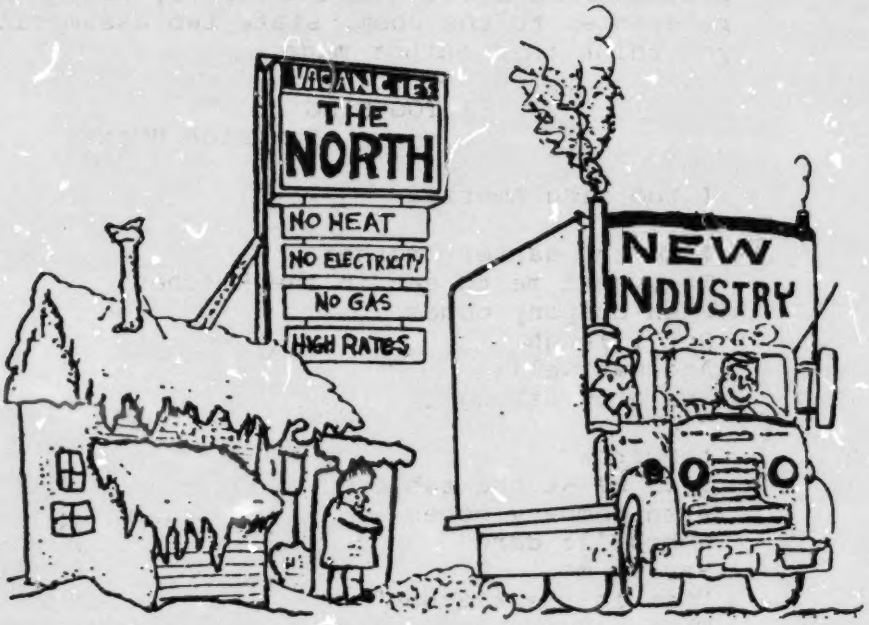
tomorrow
I'll be at the table
When company comes
Nobody'll dare
Say to me
"Eat in the kitchen"
Then,

Besides
They'll see how beautiful I am
And be ashamed

I too am American

C. The situation in the cartoon below reflects the recent changes in:

1. Weather conditions.
2. Energy costs.
3. Computer Technology.
4. Governmental regulations concerning trucking.



"Which way to the sunbelt?"

Phraseology which is particularly applicable to these types of questions include:

1. A fundamental belief underlying this [idea] is _____.
2. This [poem, song, picture, etc] suggests that the author believed _____.
3. One limitation of this [idea, poem, concept, etc.] is _____.
4. The data in the _____ reflects a recent change in _____.

The above questions demand that the students must not merely redefine the material found in the data, but to perceive the implicit information relevant to the data.

In the thinking process of Analysis, the student was required to break down the data for purposes of understanding. The stated and assumed parts of the data are being examined by the students. In the thinking process of Transformation, the student is actually rephrasing the major ideas which are implicit in the data. In the process of Association, the students are asked to extract particulars as examples of concepts or generalizations. In Identifying Assumptions, the student is asked to formulate ideas which are implicit in the data.

A NOTE ON EVALUATIVE TYPE QUESTIONS:

Many educators maintain that the ability to evaluate is the highest mental operation a student can demonstrate. Implicit in this idea is that the mental operation used to answer an evaluative type of question is somehow of a different nature than the other mental operations.

But is there a difference? By examining the following question which recently appeared on the New York State Comprehensive Examination (January, 1978), it will be possible to examine the actual thinking processes involved:

Defend or refute the following statement:

> The advances made in equal rights for women should be protected by a constitutional amendment.

Initially, in attempting to cope with this question, students must consider their own opinions about equal rights for women. The students must then try to compare the specific statement found in the question to their own evaluation of the effectiveness of current laws. If the statement corresponds positively with their own beliefs, then the student will support the argument; if not, they will refute it. Finally, the students will recall certain facts and use them either to defend or refute the argument. Thus, looking at the actual mental processes that occur, it may be argued that what one calls an "evaluative" type question is, in fact, simply a variation of an Analysis type question.

As in Analysis type questions, the students are required to see that a particular instance is but a mosaic stone in a general concept or generalization. In this case, students were required to see if this particular statement agreed with their generalized ideas about the status of womens' rights. It is a special variation because students are giving their own generalized views about the issue, but once they have stated their opinions (simply a yes or no), they then must employ the real process: that of Association.

Thus, the only difference between a so-called "evaluative" type question and an Analysis type question is in the name. What the students are being asked to do is simply to Associate.

SYNTHESIS DEFINED:

While the thinking process of Analysis stresses the breaking apart of data in order to better comprehend it, Synthesis focuses on the mental operation of seeing relationships that are not overtly present in the data. Thus, Synthesis is defined as connections constructed from the component parts of the presented

data. These connections or relationships are not immediately obvious from the way the data is presented. Synthesis involves the fusing together of the parts of the data, whereas, in Analysis, the major thrust was to separate the parts of the data, in Synthesis, the major thrust is to fuse the data together.

CONSTRUCTION OF SYNTHESIS QUESTIONS:

In order to clarify the distinction between Analysis and Synthesis, examine the following cartoon:

If the teacher were seeking to compose questions dealing with the thinking process of Analysis, the students would be asked to indicate their understanding of the various parts that make up the cartoon; Thus, to test Analysis type skills, the teacher would ask:

The balloon in the cartoon represents:

1. The increasing numbers of people entering the labor force.
2. Rising prices.
3. The increasing purchasing power of the dollar.
4. A growing economy.

This question requires the student to transform information

given in symbolic pictorial form into another medium (in this case, verbal) form.

For the purposes of Synthesis, however, the student would be required to combine the various parts of the cartoon into some sort of a connection. Thus, a question seeking to do this would read:

> Which statement best summarizes the main point in the cartoon?
>
> 1. Inflation is more imaginary than real.
> 2. Labor, business, government and the military gain economically from rising prices.
> 3. Many segments of society add to inflation.
> 4. Government and military are working against labor and business.

In the above illustration, the student is being required to seek out the relationship among the various segments of society and to see that they all add to inflation. Therefore, the key to writing Synthesis type questions is to have students seek out and find some <u>relationship</u> in the communication.

Ideas can, and often are, related to each other in many different ways. One idea may be related to another in a cause or effect relationship; one event may occur before or after another in time sequence; two ideas may be similar or they may be opposite; one idea may illustrate or even be an example of a broader, more generalized idea; or a group of ideas may be listed in topical order. All of them may give rise to questions that will deal with the thinking process of Synthesis.

In Synthesis type questions, the main emphasis is not on the cause of the relationship, but on the relationship itself. For example:

> All political systems are similar in that:
>
> 1. Their justice system reflects a belief in the Judeo-Christian ethic.
> 2. The laws are made by people through their elected representatives.
> 3. They have legislative, executive and judicial powers.
> 4. The Chief Executive is elected by the people.

This question requires that students see the connections between similar political systems in many different places. Not only must they know the characteristics of varied political systems, but they must also see the similarities that exist between them.

When composing questions that ask students to compare and contrast, some suggested phrases that will test that thinking process may be as follows:

1. One similarity (difference) between _____ and _____ is that both _____ .
2. _____ differs from _____ in that the former tends to emphasize _____ .

Note that if the answer to the question is phrased in the same way that it was taught in class, then what is actually being activated by the student is the thinking process of Memorization. The essence of Synthesis type questions is not to recall the connection, but to make the connection.

Frequently, many questions that are involved with Synthesis are data based. Data based communications may consist of cartoons, maps, charts, graphs, songs and poems. In the question that dealt with political systems, not only was the process of Synthesis required, but also the process of recall. If the students could not recall the characteristics of a political system, they could not answer the question. The teacher, therefore, could not be sure whether the student has stumbled over the process of Memorization or of the process of Synthesis. One approach to isolating the process of Synthesis is to be sure that the data introduced to the student is of an unfamiliar nature (i.e. never presented in class). Unfamiliar data such as maps, charts, graphs and pictures lend themselves to questions that crystalize this thinking process.

Some suggested phrases that might be helpful to the teacher seeking to isolate the thinking process of Synthesis in their questions might include:

1. Which statement would best summarize the main idea of the cartoon [or other data used].
2. Which statement is best supported by the poem [or other data used]
3. The best title for the cartoon [or other data used] might be _____ .
4. A valid conclusion that could be drawn from the reading [or other data used] might be _____ .

Unlike Analysis, in which the student had to demonstrate their understanding of the parts of the data, Synthesis type questions require that the student find some sense in the relationships of the various parts and produce a new (to them) whole.

HYPOTHESIS DEFINED:

In Analysis, the main function was to understand the different parts of the data. In Synthesis, the thinking process was to combine different data and parts of the data to find correlations. This section will deal with yet another thinking process for which the teacher may wish to teach and test their students--that of Hypothesis; the skill of detecting the logical implications in the data for the purpose of applying conclusions.

The key to a clear understanding of the thinking process

known as Hypothesis, is that the students are being asked to make logical predictions from given conditions about some given data or communication. There must exist a conditional aspect in the process of Hypothesizing. Conditions imply an "if- then" situation.

CONSTRUCTION OF HYPOTHESIS TYPE QUESTIONS:

In order to illustrate how Hypothesis type questions are constructed, the cartoon that illustrated Synthesis will be used so as to show how the same data might also be employed to test the Hypothesis thinking process:

> Which will most probably be an effect of the situation shown in the cartoon?
>
> 1. The military will become a threat to the democratic form of government.
> 2. Labor will make most of the decisions affecting the economy.
> 3. Controlling inflation will become increasingly more complex.
> 4. The national debt will be stabilized.

Notice how, in this particular question, the given data is extended outward from a condition to a possible conclusion.

Frequently, questions demand that the students employ more than one thinking process in arriving at an answer. In the previous example, the student was required to understand the condition and then to predict the conclusion. However, if the teacher's objective was to solely test the thinking process of Hypothesis, then the condition would have had to be given in the question stem. In the following question, this point is clarified:

> Countries are increasingly devoting a larger part of their resources to making armaments. If this situation were to continue, discuss two ways this situation might have an impact on each of the following:
>
> 1. Social programs in a country.
> 2. Patterns of industry.
> 3. Well-Being of the people.

Notice that the condition is given in the question. What is being asked of the student is to make a prediction based upon this given condition.

Of course, the teacher may wish to test other thinking processes along with that of Hypothesis. This point is illustrated in the following examples:

> A. If the rate of productivity fell in the United

States, the likely result would be an increase in:

1. Imports.
2. Wages.
3. Quality of goods manufactured.
4. Standard of living.

B. "A nation on the march cannot afford internal unrest."

A political leader following this philosophy would most likely favor:

1. government ownership of all business.
2. constitutional provisions for emergency dictatorial powers.
3. a policy encouraging political dissent.
4. elections at all levels of government.

Observe that in the above two illustrations, the students are being asked to make a prediction. The stems contain a statement of a condition. The students are required to recognize, based on that condition, a result that would logically follow.

Phraseology helpful in testing for this thinking process include:

1. A farmer [or other occupation] would probably favor _____ .
2. If inflation were high [or some other condition existed], the following would most probably occur: _____ .
3. Based on the information in the chart [or other piece of data], it is most likely that [some condition] will occur.
4. Which action by the President [or some other person or condition] would [result in: contribute:benefit].

Unlike the other thinking processes, in Hypothesis, the students must first understand the conditions. This may be achieved via the other processes of Memorization, Analysis or Synthesis.

SUMMARY:

A basic premise of this article has been that a teacher may identify four higher order thinking processes. An easy way of remembering them is with the acronym M*A*S*H (Memorization, Analysis, Synthesis and Hypothesis). That these are the basic thinking processes is confirmed by the way New York State constructs its Comprehensive Examination in Social Studies. Read the following example of an essay question found on a recent exam:

	Men	Women
percent of population	49	51
percent of jobs held	63	37
median salary (white)	$7,870	$4,580
percent of doctors	93	7
percent of lawyers	97	3
percent of engineers	99	1
percent of elementary teachers	10	90
percent of elementary principals	80	20
number of Senators	99	1
number of Representatives	425	10
number of presiding judges.	8,450	300

a Using only the information presented in the chart, what would be the best general statement that you could make concerning the relative status of women in the United States today? (3)

b Discuss other information which you already possess that supports or modifies this generalization. (4)

c In order to support or revise the generalization you stated in a, what additional statistics or information would you need? (4)

d What sources or methods would you use to obtain this additional information? (4)

In the guide to marking this test, the following was stated by the New York State Board of Regents:

> "In this type of question the student is given specific data and asked to analyze it and draw inferences and conclusions based on it (THE THINKING PROCESSES OF ANALYSIS, SYNTHESIS AND HYPOTHESIS); He is also asked to indicate knowledge of other information and sources which would support or modify his inferences or conclusions (THINKING PROCESS OF MEMORIZATION). Students must be able to develop conclusions and generalizations that will give them insights into new experiences and situations (THINKING PROCESS OF SYNTHESIS). Useful generalizations are developed by beginning with specific situations, considering their causes and effects, comparing them with similar situations, and makingconclusions."
>
> Essay Questions in Social Studies: A Guide to Analyzing Questions and Responses

The teacher's guide reveals the fact that the students, in addition to having to know the content area of Social Studies, must also show mastery of the higher order thinking processes. The higher order thinking processes are what teachers must teach and must know how to test.

SOME REFLECTIONS ON THE ART OF TESTING

Jack Hotchkiss*

> [Gertrude Stein on her deathbed: "What is the answer?" No response. Her last words, with a laugh: "In that case, what is the question?"]

Our students are not the only ones who approach testing without wild enthusiasm. They dislike taking tests; we dislike making them up and grading them. True, testing can be fun--believe it or not--but it is usually faced with a certain grimness of demeanor and with facial expressions resembling those of a person tasting an olive for the very first time. Like death and taxes, mowing the lawn, shoveling the driveway, or washing the dishes, tests must be faced. There is no need here to build an argument as to why tests are important educational tools. All of us: teachers, pupils, administrators, parents and college admissions people know how important they are (although sometimes we need to be reminded of that importance and also of the limitations of that importance).

Since some who read this may teach outside of New York State, I must state at the outset that our State testing program is designed to evaluate student performance and to reflect and reinforce our required State curriculum, not determine it.

We social studies teachers, wherever we are, would be in rather general agreement that our testing instruments should contain both objective and essay components. The essay question will be dealt with elsewhere in these pages by my esteemed colleagues. This discourse will concern itself with the technical aspects of the most frequently used form of objective testing: the multiple choice question.

The multiple choice question, on the surface, seems to be quite simple in its construction. Actually, a technically sound multiple choice question is not nearly as simple a thing to construct as I used to think when I was teaching. Our standard format is a stem and four choices. Why four? Why not three or five? You'll find in some commercially published testing materials three and five choice items. Decades of experience have shown that four choices reduces the likelihood of guesswork, without unduly increasing the level of difficulty of the item. Those with long memories may recall the now-defunct Regents College Scholarship Qualifying Test (RCSQT) in which the social studies items had five choices each, thus making them more diffi-

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cult than the Regents Examination not only in terms of content, but also in terms of structure. For Regents and non-Regents social studies testing, however, the four choice item serves our purposes best.

What of the stem? The requirement is that the stem clearly and succinctly ask a question or state a problem. This is frequently done in the form of an interrogative or declarative sentence, but may be in the form of a part of a sentence. However, a stem such as "In the United States:" followed by four choices violates the principle above. There is no problem or question in the stem. If the statement were to read, "What statement about the United States is true?", it would be satisfactory. Suppose the stem read: "Which of the following statements about the United States is true?" We would have to point out that "of the following"--beloved phrase of those who make up forms and questions though it may be--is actually excess verbiage, not necessary at all, and, in fact, clutters up the stem. The choices couldn't be anything but "the following" in any given question, could they? So why put it in?

Taking this a few steps farther, we try as hard as we can to discourage unnecessary wording altogether. Our guidelines state: "Tell the student as much as he/she needs to know to understand the question, but no more." Resist the temptation to supply unneeded background or to create literary gems in composing a multiple choice question. Among other "no-no's" are the expressions "all of the above" or "none of the above" in the choices. Each of the four choices should be a plausible entity in itself, with one of the choices being indisputably the correct one or the best of the four. This means that there may be some validity in the foils (or incorrect answers), but the key (the correct answer) must not be in doubt. However, it is very unfair to pupils in a test situation to have foils that are only slightly less correct than the key. Tricky questions have no place in good testing practice except for fun purpose like "brain teasers" or quiz contests. By the same token, the "nonsense" foil is a wasted foil in serious testing (although it may serve a useful purpose in an informal context by way of injecting a bit of much needed humor into instruction).

Along with the plausibility of all choices, comes the requirement that the choices be parallel and similar, both grammatically and structurally (and that they and the stem be grammatically correct, of course). The student's attention to the essence of the question itself should not be distracted by choices too structurally dissimilar. Further, the actual lengths of the choices should not vary greatly from each other. This doesn't mean that the writer must calculate an equal number of words for each choice but it does mean that the student should not be distracted from thinking through the question by a choice that is significantly longer than the others. Rightly or wrongly, this might make the student think that the longest choice is the correct one.

Not all teachers agree with our admonitions against the use of negatives and absolutes. We do not reject every item that contains a negative element, however, we use them very infrequently. They sometimes fit into the category of tricky questions. They may require extra mental steps, especially if one or two of the choices contains a negative and the others do not. Usually, a negative element can be made into a positive one by rewording, thus preserving the intent of the item and reducing the possibility of misunderstanding. Words to be avoided as much as possible in item construction are: not, never, except, and but. In social studies particularly, we should be especially wary of such absolutes as never and always or expressions that convey similar meanings. In fact, we can be absolutely dogmatic about absolutes and advise you never to use never and always avoid always in an item. So there!

Finally, some points about the "group" question--a staple in State social studies testing practice and an important measure of a variety of skills involving interpretation and analysis of data; written, graphic or visual. The group question must have some kind of stimulus or data base around which 2 to 4 good questions can be constructed. Instructions are usually couched in terms of answering questions "based on the [graph/cartoon/quotation(s)] above (or below) and your knowledge of social studies." While an item in a group question may be based on the stimulus alone, no item should be answerable without some reference to the stimulus, either direct or indirect. If the stimulus is not needed in order to answer a particular question, the question should be rewritten or dropped from the group and perhaps used by itself another time. Don't use graphs or charts that are so complex or that cover so much that undue time will be spent by the student in studying the graphic. If you find a good graphic in a newspaper or magazine that has more in it than you want or need, play around a bit with simplifying it yourself without invalidating the data. And, by the way, make sure your data are from reliable sources. Last, but not least, no individual item in a group question should depend on, or tip off, any other item. Taking that idea one step further, no question--objective or essay--on a test should provide a clue to the answering of any other question.

Well, if you have read this far and have not found this discourse a sure-fire cure for insomnia, you will have noticed that I have not said anything about essay questions. Don't interpret that as minimizing in any way the continuing and, in fact, increasing importance of essay questions and essay assignments. That subject is meat for another article. For the moment, suffice it to say that essay questions should always meet the same criteria of clarity, brevity and curricular validity that objective questions should possess and should also test the student's ability to organize and develop a piece of expository writing. Student responses must possess form, substance and clarity and should reflect some ability to interpret and analyze specific information and to generalize in a valid way from the specifics. And essays written for quizzes, unit tests and home-

work assignments must be carefully evaluated, annotated and returned without too much delay. Also, it is not unreasonable to expect a certain level of grammatical and syntactical competency in social studies essay writing.

'Nuff said for the present. We in the Bureau of Social Studies Education hope that those who read this and who are interested in the full treatment of the two-day item-writing orientation session which we hold annually in Albany to train item writers for the Comprehensive Examination in Social Studies and the Statewide Achievement Examination in Social Studies will let us know of your interest. Remember that all State testing instruments are written by practicing teachers like yourselves. Let us hear from you.

With that, I'll leave you to ponder the world of stems, keys and foils with the hope that this informal and very cursory essay may be of some help to you.

IMPROVING THE SOCIAL STUDIES ESSAY QUESTION, or HOW TO AVOID ASKING FOR THE HISTORY OF THE WORLD

Annette C. Argyros*

Among social studies teachers, the essay question has long been a favored method of evaluating student achievement. A test composed of essay questions is regarded as being a probing yet flexible device which permits students to demonstrate not only historical knowledge, but also higher order processes as analysis, interpretation, application, drawing inferences, and the like. It is unfortunately true, however, that many essay questions have weakesses which seriously limit their usefulness as evaluation tools. The purpose of this article is twofold: (1) to discuss several issues which are fundamental to essay test construction and (2) to present specific suggestions for improving social studies essay questions.

Issues

1. Is sufficient time devoted to the preparation of essay questions?

Probably the greatest illusion about essay questions is that they can be easily and quickly constructed. Perhaps it is the deceptive simplicity of the finished product--a valid, significant and clearly worded essay question--that belies the time-consuming labor involved in its preparation. As a general rule, producing an essay question of merit requires that at least as much time be spent in constructing the question as students will take in answering it.

2. Is a written test description prepared for every test?

The goal of any achievement test, regardless of its subject matter or format, is to yield valid and reliable information that can be used to make decisions about students' attainment of important educational objectives. While this goal is clear, achieving it is one of the social studies teacher's most difficult tasks. This is especially true when it comes to essay tests. As the teacher grapples with specific issues of what constitutes appropriate historical content and understandable wording, the overall goal can become obscured or lost entirely.

The critical initial step in constructing a valid and reliable test is the development of a "blueprint," or a written description of the objectives of the test, and of the

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subject matter content and student behaviors to be sampled in order to measure these objectives. This description need not be lengthy (a brief outline is usually sufficient for most classroom tests), but it is important that the description be written rather than merely a miscellany of ideas in the teacher's mind. It is the process of writing the description--actually setting pen to paper--that greatly sharpens the focus on the objectives of the test and on the best ways to achieve them. It is repeated reference to the written description during the question writing process that helps the teacher make specific content and format decisions.

3. Does the question present the student with a reasonable and clearly defined task?

One of the great advantages of the essay question--giving students the opportunity to compose an original, free answer--can also be a major pitfall. Actually, the expression "free answer" is a contradiction in terms. In order to be answerable, an essay question cannot be "free"; that is, the student cannot be allowed to draw indiscriminantly upon his or her fund of knowledge, with no focus or selectivity. For example:

> Explain how the government has encouraged the development of minority rights in the United States.
>
> This question is so broad that it gives the student no definite direction in which to go. Is the student to deal with the federal or state government? Or both? To what time period(s) does the question refer? What does "encourage" mean: Through Supreme Court decisions, constitutional amendments, affirmative action programs, moral persuasion, and/or something else? How much must the student "explain" to receive full credit? This type of essay question leaves the student with so many gaps to fill in that, in effect, each student has to construct his or her own question. Not only does this impair comparability of answers (and thus test validity), but it also affects students unfairly by rewarding those who happen to guess accurately at the question's intent and punishing those who don't. In the testing process, the student's role is to answer questions, not construct them.

A good essay question establishes a manageable, clearly defined problem or situation which students must address and is unambiguously worded such that the same task is communicated to all students.

4. Is the usefulness of essay questions maximized by limiting them to measurement of knowledge and behaviors that cannot be measured by objective questions?

The primary strength of the essay question is that it has the potential to measure higher order skills and

behaviors than can usually be tapped by objective questions. The essay question affords students the opportunity to grasp the substance of a given task, select specific relevant information from their fund of knowledge, and present this information in an organized and literate manner. Thus, to construct essay questions that measure only the mere recall of facts is a waste of the essay question's primary strength. For example:

> Identify and define the weapons used by employers to discourage the growth of unions.

This question measures only simple recall of facts; no higher order skills or processes are needed to answer it. As a general rule, teachers should be wary of constructing essays requiring only such tasks as "name, state, identify, define list, locate."

5. Is preparing a key an integral part of the process of constructing essay questions.

All teachers seem to know that a tentative scoring key should be prepared as part of the essay question-writing process; very few actually prepare one. It is somehow felt that the key will not become important until after a test has been administered. In practice, the advance listing of major expected responses has several benefits. It can provide an estimate of the amount of time students may need to answer a question. It may reveal that a proposed essay question lacks clarity and focus, or is actually unanswerable because it is basically trivial or requires skills a particular group of students do not possess. Advance preparation of a key may also reveal that two questions on the same test are measuring fundamentally the same knowledge and skills.

6. Are students given opportunities to practice essay test-taking skills as a class exercise?

Teachers frequently complain that students do not have the skills necessary to answer essay questions successfully. Students are accused of inability to understand the meaning of commonly used directions such as "discuss, explain, compare, analyze" and of failure to present relevant historical information in a way that answers the question which is being asked. It should be remembered that understanding these terms is not a natural ability nor can it be assumed that these skills are taught in English classes. Given the preponderance of objective tests in other subjects, social studies is often the only class wherein students are required to deal extensively with essay questions.

Students' skills in answering social studies essay questions should be developed by deliberate training and practice in class. With the teacher's guidance, provided in a non-threatening environment free from time pressures, stu-

dents can often make significant progress in developing and refining their essay test-taking skills.

7. After essay tests have been administered and scored, are they reviewed with the students?

Commonly, the only feedback students receive about tests they have taken is a number or letter which indicates (ostensibly) how well or poorly students performed, but tells nothing about why their performance did or did not meet the teacher's standards. Ironically, the more important the test, the less opportunity students usually have to review their performance; end-of-course final examinations are far less likely to be reviewed than classroom quizzes. Thus, the student is deprived of a learning experience (one of the primary reasons for giving a test) and the gap between testing and learning is further widened.

Whenever possible, students should have the opportunity to review and discuss their essay test answers with the teacher on a one-to-one basis. If time constraints do not always permit such individual teacher-student conferences, then at least class discussions should be conducted. Samples of superior, adequate, and unsatisfactory student responses (anonymous, of course) can be presented to the class and analyzed. This practice can be very helpful to both students and teachers. Students can learn very directly the reasons why certain types of responses did or did not meet standards. Teachers can learn about possible content and structural weaknesses, imprecise vocabulary, and other flaws in their essay questions. There is nothing quite so deflating yet instructive as for a teacher to hear a student chorus of "Oh, so that's what you meant!" in regard to an essay question.

Specific Suggestions

Clarity and Precision of Wording. Choose carefully the verb(s) that communicate the central task of the question; for example, do not specify "compare" when "illustrate" is actually intended. Use only those directions with which the students have had experience (unless the specific purpose is to test students' ability to handle an unfamiliar task).

Indicate the extent and depth of the expected answer by stipulating the number of results, conditions, examples and arguments, to be discussed. Indicate whether a question is to be answered in political, economic or social terms (or some combination thereof). Specify the amount of credit allotted to each essay, and especially to sub-sections of essays.

Do not assume that students will provide more information than the question actually calls for. For example, in discussing the influence of the United States Supreme Court on the expansion of civil rights, students are unlikely to furnish names of cases, definite time references, and specific historical background

unless directed to do so. Nor are they likely to support a position or argument with specific information and/or evidence unless so directed. The wording of essay questions certainly should not encourage students to answer with sketchy historical content, vague generalities, and unsubstantiated opinions.

Time and Nation/Place Designations. Most social studies essay questions need some time/place designations; otherwise, they are too broad to be answerable. Such designations should be absolutely clear. Do not puzzle students with expressions such as "contemporary", "current", "historically", "in the last two decades", "Feudal Era", or even "sixteenth century"; define such time periods by giving specific dates. Nation/place designations should be equally clear. If sub-Saharan Africa is intended as the focus of an essay question, merely indicating "Africa" is not sufficient. In a similar vein, answers to a question specifying "China" will be quite different depending on whether the student interprets the term to mean traditional China or the People's Republic of China.

Use of Data Bases. Often, stimulus materials such as charts, graphs, cartoons, quotations and reading passages are chosen to form the basis of an essay question. Examine stimulus materials critically to assure that their message is clear (be mindful of students' tendencies to interpret materials too literally and from a contemporary rather than an historical perspective) and that they are essential to answering the question. If a question can be answered without reference to the data base, then write another question or omit the data base. Nonfunctioning data bases are not only irrelevant but also detrimental because they cause students to waste time and energy looking for relationships that do not exist.

The Negative "Isms". In constructing essay questions, even the most self-aware teacher is not totally immune from unconscious lapses into negative "isms": ethnocentrism, chauvinism, provincialism. The discipline of social studies itself has a heritage of less-than-enlightened weltanschauungs. (A very simple example: the area called the Middle East is so-located only from a Western perspective; geographically, it is Southwest Asia. Students should not have to address questions which are presented from an unenlightened viewpoint and which may not be historically valid. Students should not be forced to defend positions with which they may not agree (e.g. "Explain why the United States should withdraw from the United Nations"). Therefore, evaluate each essay question to see that it is free of narrowness, bias, value judgments and the negative "isms".

Uniqueness of Questions. Each essay question in a test should be unique in the sense that students should not be able to use the same historical information to answer more than one question.

The following two questions appeared on a recent grade 9 final examination administered in a New York State school:

1. Choose two non-Western nations and describe problems

each has faced in trying to become a modern industrialized nation.

2. Describe two consequences of imperialism in each of two non-Western nations.

These questions invite students to use the same nations and some of the same information--the role of imperialism--as answers to both questions. Such overlap between questions further reduces the inherently limited ability of essay questions to sample course objectives and should be carefully avoided.

Similar Level of Question Difficulty. As much as possible, social studies essay questions included in one test should be comparable in terms of what is demanded of the student. This is especially important for tests wherein choice among questions is permitted. Including essays of uneven difficulty tends to benefit brighter students who can generally make wise selections, and penalize less able students whose lack of insight may lead them to choose unwisely.

A characteristic of social studies is that it includes topics which are about equal in importance but seem to be inherently unequal in difficulty. Where a test must include topics of inherently unequal difficulty, then the test should be divided into parts. The more difficult questions should be grouped separately from the easier ones and students should be directed to choose within each part.

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"Genius," the old saying tells us, "is an infinite capacity for taking pains." In few areas is this statement more relevant than in the construction of essay questions. Yet, given the crucial role tests play in students' lives, there are few educational endeavors where time and effort can be better spent.

Acknowledgements

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ESSAY QUESTIONS: THE ETERNAL BRAID

James Killoran
Joel Fischer

One doesn't have to reinvent the wheel when justifying the value of essay questions. The New York State Manual on Test Construction Procedures aptly summed up the value of essay questions when it stated:

> The fundamental contribution of the essay question is that it requires the pupil to develop an answer from his own background and fund of experience, without benefit of suggested possibilities or alternatives, and to express that answer in his own words. Where this is a crucial element in the measurement picture, the use of essay rather than objective questions is indicated. By requiring pupils to present evidence, to evaluate, to analyze and to solve new problems or approach problems in a new way, essay questions can serve to measure some higher level abilities and thus contribute to knowledge about the pupil.

However, developing essay questions that fulfill the above aims is a creative act by the teacher. Each question, not unlike a Bach fugue, is a variation of a common theme. It is the purpose of this article to illustrate some of these variations possible when constructing an essay question.

One may think of an essay question as a call for the student to respond to some piece of data. Although the responses may vary, they may still be classified. For the purposes of this article, the responses possible when we ask our students to (1) analyze charts, graphs, cartoons and pictures, (2) analyze written statements and (3) use problem-solving techniques, will be examined.

1

TYPES OF RESPONSES THAT MAY BE SOUGHT WHEN STUDENTS ARE PRESENTED WITH CHARTS, GRAPHS, CARTOONS AND PICTURES

When considering the type of responses students can give to pictoral-symbolic data, it is important to first understand that these things are, in effect, a different language. Used to represent concepts and ideas, they take the place of the infamous

"1,000 words". What we essentially want to do is test whether students are literate in this media representation.

How this is done may be seen by examining the following question from a recent New York State Comprehensive Examination in Social Studies:

1 The cartoon below is concerned with certain Supreme Court decisions.

Three Pillars of Wisdom

a What is the main idea of the cartoon? [3]

b Select *one* of the three areas dealt with in the cartoon: School Desegregation; or One-Man, One-Vote; or Rights of the Accused.

(1) For the area selected, state the main point of any related Supreme Court decision. [It is *not* necessary to name the decision.] [3]

(2) Cite various conditions within the United States which led to that Supreme Court decision. [3]

c Discuss *two* effects on life in the United States which have resulted from the decision given in answer to *b*. [6]

Notice that in question (a), the students are being asked to translate the pictoral-symbolic form into one of verbal form. This we may call the process that requires: Comprehension of a Figure or Situation in the Data. Other ways to have phrased the above question to indicate comprehension might have been:

A. Give this cartoon [or chart, graph, etc.] a title.

B. Using evidence from the cartoon [or chart, graph, etc.] describe the way the Supreme Court was interpreting the Constitution in the years 1953-69 [or any other specific item in the data].

C. Describe a change in the United States [or any other country] which has been instituted as a result of the rulings cited [or any other condition found in the data].

but essentially what is being asked for is a simple conversion of symbolic data to verbal form so as to verify that the student understands the pictoral.

Questions (b.1) and (b.2) are asking the students to give the background as to how the data has come to be represented the way it is. This process we may call: Explaining the Data or Conditions in the Data. Another way of getting this type of response might have been:

A. Select one of the changes mentioned on the pillars [or any feature from a chart, graph, etc.], and for the selection chosen, discuss one reason why the change was made [or, if no change, why the situation currently exists].

but essentially, what is being asked for is for the student to be able to identify real conditions that are being represented symbolically.

Question (c) is asking the student to understand that the symbolism represents forces that are real and to note what they are. This we may call, the process of drawing a Conclusion or Making a Generalization from the Data. We might have phrased the question:

A. Using only the information presented in the cartoon [chart, graph, etc.] what might be a valid generalization [or conclusion] about the Supreme Court's impact on American life between 1953 and 1969? [or any other factor in the data].

While this particular question stopped short of other processes, they might have included two others. Had it asked, for example:

A. Below are several issues that concern people today. Select one and explain how you think the Warren Supreme Court would have ruled:
   School Busing to achieve racial balance.
   Affirmative Action programs.
   Equal Rights Amendment.

it would have been testing the students' ability to draw: Inferences and Predictions Based on the Data.

They might have phrased it as:

A. Discuss one possible step that Congress [economists, sociologists, politicians, etc.] could have taken [did take, will take] to have avoided having the Supreme

Court rule on this problem [or any condition found in the data].

B. If the situation described in the cartoon [chart, graph, etc.] continues to the year 2000, how do you think [somebody or something in the data] will be affected?

but essentially we are asking the students to project the consequences of the conditions that exist in the data.

The final way this data may have been used would have been to ask students to make a Value Judgement Based on the Data.

Had the question read:

A. Evaluate, with at least one piece of specific historical evidence how effectively the Supreme Court [or anything else identified in the data] has helped to correct [or change] the problems [or other conditions] highlighted by the cartoon [or other data],

it would have required the student to use the cartoonist's point of view as jumping off point for comparison with the students' background of knowledge.

2

TYPES OF RESPONSES THAT MAY BE SOUGHT WHEN STUDENTS ARE PRESENTED WITH WRITTEN STATEMENTS:

Not every social studies generalization is presented pictorally or symbolically. Often, ideas are presented as statements from authorities, around which students may organize the selected content. Statements, however, are usually presented in two distinct forms: (1) as if they were necessarily true and (2) as if they were open to question.

In the first form, the student may be asked to illustrate how specific historical information supports the general statement. Observe again, a question selected from a recent New York State Comprehensive Examination in Social Studies:

In societies throughout the world, industrialization has had an impact on social, political, and economic forces and institutions such as those listed below.

Forces and Institutions
Labor unions
Human rights
Public education
Urbanization
Health care
Public assistance

Select *three* of the forces or institutions listed above. For *each* one chosen, discuss *two* ways in which industrialization has had a significant impact on that force or institution in a specific society. (You may use the same or a different society for each force or institution chosen.) [5,5,5,]

The student is being required to make a selection(s) from a given list and the show how that condition illustrates the general statement. It might have been phrased as follows:

A. Certain	things	affect	somebody
	forces	influence	something
	groups	change	some area
	values	confront	some outcome
	goals	determine	
	individuals		
	ideologies		
	concerns		
	ideals		
	factors		
	policies		

but what it boils down to is asking the students to understand a major generalization and then to give a specific instance(s) that would illustrate this understanding. In the second form, a statement is presented that is open to question. How this is done may be seen by examining another question from a New York State Comprehensive Examination in Social Studies:

Fear or the desire for power and wealth cause men to change usual patterns of behavior, as well as their normal system of values.

Show to what extent this statement helps to explain each of *three* of the following: [15]

(*a*) treatment of American Indians
(*b*) treatment of a particular immigrant group in the United States during the 19th century
(*c*) treatment of black Americans in the United States after the Civil War
(*d*) treatment of the Jews in Germany during the Hitler era
(*e*) treatment of Japanese-Americans during World War II
(*f*) treatment of Roman Catholics in Northern Ireland

Observe that the main thrust of this question is to focus the students' attention on the validity of the stated concept and to require them to examine its applicability to the statement in each of the cases they select.

In addition, other questions can test the students' understanding of historical cause and effect in the social studies. For example, in the following question:

7 Below is a list of problems of contemporary concern in the United States.

Problems

- Unemployment
- Civic apathy
- High crime rate
- Controversy over busing to achieve integration
- Conditions of the elderly

a Select *three* of the problems from the list above. For *each* one selected, discuss at least *two* causes of the problem. [6]

b For *each* problem selected in answer to *a*, discuss *one* specific proposal that a government agency or interest group has proposed to solve the problem. [6]

c Select *one* of the problems given in answer to *a*. For the problem selected, describe *two* methods a group interested in solving the problem might use in order to have its proposals adopted. [3]

the students were being asked to (1) present causes for the problem chosen, (2) present possible solution to the situation chosen and (3) present the difficulties that might occur in trying to deal with the given situation, but there are additional ways of testing the students' understanding. One of the choices might have been:

A. Describe one way unemployment [or other selected item] could affect the salaries of those workers who are employed [or some other condition].

The response required of the students shows how well they could see how a statement's condition affects other conditions. Similarly, responses might require a student to compare or contrast two statements on the same topic or predict results that could occur if a statement were carried through to its logical conclusion.

TYPES OF RESPONSES THAT MAY BE SOUGHT WHEN STUDENTS ARE PRESENTED WITH PROBLEM-SOLVING TYPE QUESTIONS

If we may accept the premise that it is the responsibility of social studies teachers to help students make reasoned choices and to help them know why they made them, then we may understand what types of responses we may ask for in dealing with problem-solving type essay questions.

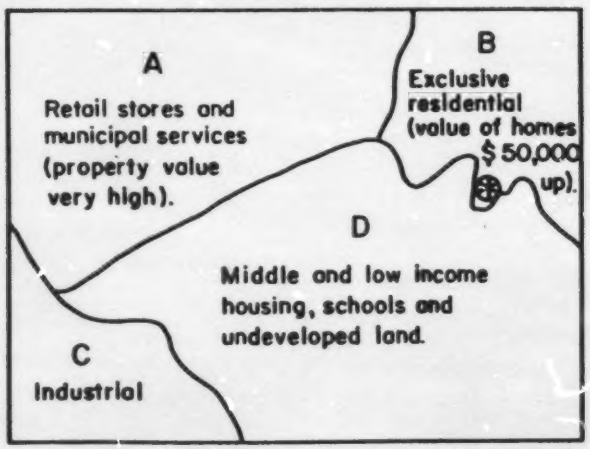
An appropriate problem-solving question asks students to reflect on the total picture. John Dewey stated that "Reflection is an imaginative rehearsal of various courses of action where judgements of value enter in with a view to discovering the better and rejecting the worse." According to him, this can best be done by going through the following five steps:

1. List all possible choices and consequences of each.
2. List people who will be affected by each decision.
3. Put yourself in the place of those persons each decision most affects.
4. List various alternatives and rank them.
5. Make a decision and act upon it.

Thus, decision-making questions must be constructed in such a way as to make the students use this approach in deciding what action(s) should be taken. This may be accomplished by creating a hypothetical situation in which the students act for themselves or are asked to play different roles. For an example of this, we again look at a recent New York State Comprehensive Examination in Social Studies:

Below is a map of a hypothetical community of 150,000 people in New York State. The State has proposed the construction of a Drug Counseling and Treatment Center on some State-owned land on the border of zone *B* and zone *D*. The center will house resident addicts in the 12–20 age group from throughout New York State. The community will receive substantial State aid to support the operation of the center.

COMMUNITY MAP



a Identify and briefly explain *one* issue which might result from the proposed construction of the drug counseling and treatment center at this site. [3]

b From the list below, select *two* community groups that are likely to be on opposing sides of the issue identified in *a*. Discuss the probable position of *each* group chosen, giving arguments each would be likely to use in support of its position. [6]

(1) the zone *B* property owners' association
(2) the retail businessmen's association
(3) the interfaith drug education group
(4) the parent-teacher association
(5) the high school student council
(6) an independent private drug prevention center

c Explain and defend a reasonable decision that the elected community officials might make to resolve the issue identified in *a*. [6]

Notice how students are being asked to respond in such a way as to make it clear that they understand the situation and its implications. A variation of this might be something like:

A. You are the President of the United States. You are faced with the following situation:.....

In a well organized essay, explain what you believe your options are, which one you would select, how it would impact on..... and why you made this selection,

but what we are basically trying to do is trigger the problem solving response mode on the part of the students.

To paraphrase Hofstadter's "Eternal Golden Braid", one must weave the three main strands: knowledge of concepts and content, ability to manipulate the data (skills), and mastery of the fundamental thinking processes (analysis, synthesis and hypothesis) into a new and novel braid: the essay. It is only by using the essay form that all three strands of the braid may be brought together. How we want the students to do the "braiding", however, depends upon the type of response we want to trigger with the way we phrase our questions.

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